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FUTURE MOBILITY NEWS

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FUTURE MOBILITY SHOW | FEB 27, 2019, BANGALORE INTERNATIONAL EXHIBITION CENTRE, BENGALURU | FOR PRIVATE CIRCULATION ONLY | OFFICIAL NEWS LETTER OF THE 2ND FMS EDITION

BUILDING MOMENTUM FOR MOBILITY EVOLUTION

Future Mobility Show 2019 by Confederation of Indian Industry (CII) promises to set the ball rolling for the evolution of India's mobility sector to the next stage and help it go the extra mile to accelerate the deployment of new solutions to transform the way people and goods are moved

The maiden edition of Future Mobility Show (FMS) 2019, which got underway at Bengaluru International Exhibition Centre on February 26, has set in motion the process of evolution of India's mobility sector that is readying to leapfrog to a clean and efficient future creating unprecedented opportunities at every step of the way. Setting the tone of the three-day international exhibition and conferences at FMS 2019, the inaugural session saw KJ George, Minister for Large and Medium Scale Industry, Government of Karnataka; Chandrajit Banerjee, Director General of CII; Vikram Kirloskar, Vice President, CII; CV Raman, Chairman of CII Steering Committee on FMS 2019; and Manoj Kohli, Chairman, CII Task Force on Electric Mobility and Storage, spelling out the outline of the roadmap of transportation in the country.

Addressing a gathering consisting of who's who of India and the world's mobility sector, they set the ball rolling for deliberations among key stakeholders on the major issues concerning future of mobility, latest trends in connectivity, new mobility solutions, business opportunities and the direction of policy push required for the evolution of mobility to the next stage.

FMS 2019 also reflects the forces that are driving the new mobility ecosystem in India. The show has brought together top mobility industry leaders, startups, technology providers, government decision makers and countries.



Dignitaries inaugurating Future Mobility Show 2019 at the Bengaluru International Exhibition Centre.



Mr. KJ George, Minister for Large and Medium Scale Industry, Government of Karnataka at the FMS inaugural session.



Innovative mobility solutions at FMS expo.

Future Mobility Show to address the issues of clean and sustainable environment, energy security and job creation in a technology agnostic manner. The show has been designed to see mobility holistically and discuss solutions relevant to India.

FMS 2019 expected to see over 15,000 visitors for the mobility focused expo and conferences. CII to take forward the key recommendations that will come from stakeholders during the three-day show.

Who's who from the mobility and transportation sector will converge at FMS 2019 to co-create a public sector framework to transform future transport. The show will help stakeholders determine where to play and how to win.

The maiden Future Mobility Show seeks to start a dialogue on the future options that India needs to look into, both from the technology aspect and the fuel choice. FMS will look at various mobility options in line with India's green commitments.

Supporting Organisations



VOICES



Mr. K.J. George
Minister of Large & Medium Industries
Government of Karnataka

Karnataka has realised the relevance of Electric Mobility and has emerged as a frontrunner, determined to play a vital role in driving EV penetration. Karnataka, a pioneer state, home to first electric vehicle in the country along with the required ecosystem, is at the cusp of making a transition to new mobility solutions.



Mr. Vikram Kirloskar
Vice President
Confederation of Indian Industry

Even though India is one of the fastest growing countries in renewable energy, it still needs to look at the overall energy equation, ensure that the energy future is secure and find ways to sustain energy requirements for everyone. The mobility sector is a ray of hope given the pressures the country faces to provide jobs to the young people.



Mr. Vipin Sondhi
Chairman
CII Trade Fair Council

Mobility is going to get greater traction in the future. Future Mobility Show 2019 is a great initiative by the CII. We must bring people together on a platform to determine the future of mobility.

INDIA REMAINS ON THE CUSP OF INNOVATION

Focus on technological advancements and innovations to bring in alternate solutions to the conventional fuels that are currently in use in the automobile sector



with Prime Minister's vision of Make in India and upskill the workforce and increase jobs, he added.

"The event will focus on technological advancements and innovations to bring in alternate solutions to the conventional fuels that are currently in use in the automobile sector and to help achieve the target of zero emission mobility for India, in future," Kirloskar said.

Greenhouse Gas emissions from transport are anticipated to rise from today's levels by nearly 20 percent by 2030 and close to 50 percent by 2050 unless major action is undertaken, he cautioned. "In this context, Mobility is critical to India's environment and a lot of work needs to be done-towards innovating cleaner fuel technologies to ensure that India's future roadmap for mobility is sustainable," the CII Vice President said.

Speaking on the job creation potential under 'Make in India' initiative, he said that mobility sector today contributes more than 7 percent to the country's GDP. "It is half of the manufacturing sector which supports jobs for 32 million people and has the potential for creating even more jobs in the future," Kirloskar said.

India cannot have economic growth without mobility and cannot have mobility without economic growth, but the country needs to do it in a way that is sustainable. To ensure that India remains at the cusp of innovation in the mobility sector. It requires its work force to be continuously be upgraded on the latest skills for higher value additions, said Vikram Kirloskar, Vice President, CII, at the inauguration of Future Mobility Show (FMS) 2019.

FMS aims to not only look at a mobility transition for the country but also look at energy security for the nation to help achieve India's climate change commitments, in line



Dignitaries launching the Future Mobility Show catalogue at the Bengaluru International Exhibition Centre.

Deepening Engagement on Policy, Technology Fronts

Data and the capability to manage and share data will be the differentiators in the future of mobility, and managing the data from the first mile to the last mile will provide incredible insight and power, says Chandrajit Banerjee Director General, CII



Elaborating on Confederation of Indian Industry's work in Future Mobility Sector, Chandrajit Banerjee, Director General, CII has said that the organisation has deepened its engagement with the government and stakeholders on policy as well as the technology front.

"The government has shown through its various schemes a great will to transform the mobility landscape in India, National Policy on Bio-Fuels, and National Electric Mobility programme among others. CII through its taskforce has worked towards attaining policies on energy security that are sustainable," Banerjee said.

He added that CII through its focused task forces has been working to ensure movement towards a sustainable means of transportation in India, and to reduce cost and ensure secure supplies of raw materials for local manufacturing of storage batteries.

"Some of the key recommendations that CII has put forward includes, Market Creation

and Adoption, Creating Scale for Make in India, Domestic Manufacturing of Vehicles Components and Batteries, Skill Development, Integration of Renewable Energy into Charging Infrastructure and Measures for Cost Reduction. These recommendations have been put forward to respective ministries and CII is looking forward to working closely with the government in its implementation," the CII Director General said.

He expressed satisfaction that CII is working and partnering with the government to further transition in the space of transportation. "This will also help India as a country to fulfill its climate change commitments and set a global example," he said.





Mr. Chandrajit Banerjee
Director General, CII

The Government of India has shown a great will to transform the mobility landscape of India by adopting new policies like the National Policy on Biofuels, National Electric Mobility Programme. Also in the works is the newer version of FAME I. Recent fiscal incentives with customs duty cuts on hybrid and EV cars also augur well for India's mobility transition.



Mr. Manoj Kohli
Chairman, CII Task Force on Electric Mobility and Storage

I believe that this is the start of the future. If you see globally, two major transformations are taking place - there is energy transformation from fossil to renewable energy and there is transport transformation from internal combustion engine to electric vehicles. I think these transformations are very closely linked and that's where a lot of good for the society will happen.



Mr C.V. Raman
Chairman of CII Steering Committee on FMS 2019

India will have around 70 million cars by 2030, considering an average CAGR of 8 percent. With an EV penetration of 20-30 percent, the internal combustion engines will still be 70-80 percent of this number. Therefore, a technology agnostic approach with focus on alternate fuels, hybrid electric vehicles, electric vehicles will have a lot of impact on our oil imports. So, we need to do a localisation of these technologies.

E-MOBILITY SHAPING INDIA'S AUTOMOTIVE INDUSTRY

Karnataka has been playing a pioneering role in EV space with many key initiatives to promote manufacturing, infrastructure and adoption of new mobility solutions



Mr. KJ George, Karnataka's Minister for Large and Medium Scale Industry taking a tour of expo

E-mobility is already shaping and will continue to shape the automotive industry in India and around the world, said K J George, Minister for Large and Medium Scale Industry, Government of Karnataka, while addressing the Future Mobility Show (FMS) 2019, the largest show focused on products and technologies for future mobility.

"Nowhere is there greater potential to accelerate the energy transition and Electric Vehicles than India, home to a growing, urbanising population of half a billion with buying potential and the steady economic growth," the minister said.

He added that Karnataka realised the relevance of Electric Mobility early on and has emerged as a frontrunner, determined to play a vital role

in driving EV penetration.

The state government aims to replace 50 percent of petrol and diesel vehicles used by the government staff in Bengaluru with electric vehicles by this year, the minister announced.

George also highlighted some of the key initiatives for driving e-mobility by the government of Karnataka.

"Today, Karnataka is the 1st state to announce subsidy on

electric vehicles for the sector to bloom under a comprehensive and well-designed Electric Vehicle and Energy Storage Policy 2017. Karnataka's policy framework for electric and sustainable mobility in the fields of electric vehicles, charging infrastructure and battery technology would be a game changer in the Industry and will be a model for other states," the minister added.

Karnataka has been playing a pioneering role in EV space with India's first ever electric technology manufacturing hub built in Bengaluru by Mahindra Electric and India's first electric vehicle charging stations setup by BESCOM at Bengaluru at 108 locations. The government is also contemplating preferential parking for EV and adequate signage in the city to guide EV owners to parking slots.

Making Mobility Accessible to All

India, a nation of 1.3 billion people, has unique opportunities and challenges to make mobility accessible to all

Speaking at the Future Mobility Show, C V Raman, Chairman of CII Steering Committee on FMS 2019 and Senior Executive Director, (Engg. and R&D) Maruti Suzuki India Ltd, said that the Indian auto industry has grown significantly over 2.5 times during the last decade. "India is different because we're a nation of 1.3 billion people and about 950 million young people," Raman said. The maximum growth has come in the two-wheeler sector which accounts for 75 percent of vehicle share. But, he added, the country has a long way to go in making mobility available to all class of people. "As per a recent TERI report on how India commutes, 30 percent Indians don't travel, 23 percent commute on foot, 18 percent use public transport and

only 15 percent use private transportation, 12 percent two wheelers and 3 percent cars. India has a long journey ahead to make mobility accessible to all classes and everyone," Raman observed.

He also said that electric mobility, with investment potential of USD 667 billion in India, is a pragmatic reality. "In near future it will change the landscape of mobility in the country."

As per WHO report, 14 out of 15 most polluted cities are in India. But implementing stricter norms will not solve the problem because there are more than 9 million old vehicles on roads. "In order to solve this problem, the facility for scraping of vehicle is very important," Raman said.



- Indian auto industry has grown about 2.5 times in the last decade
- Only 15 percent Indians use private transportation
- Reduced average traffic speed in Indian metro cities giving rise to CO2 emission by 20-30 percent
- India will have 70 million cars by 2030
- 50,000 people die every year in road accidents





FMS 2019: A V SUSTAINABLE M

*The Future Mobility Show 2019 offers a glimpse
transform the transportation sector both from t*

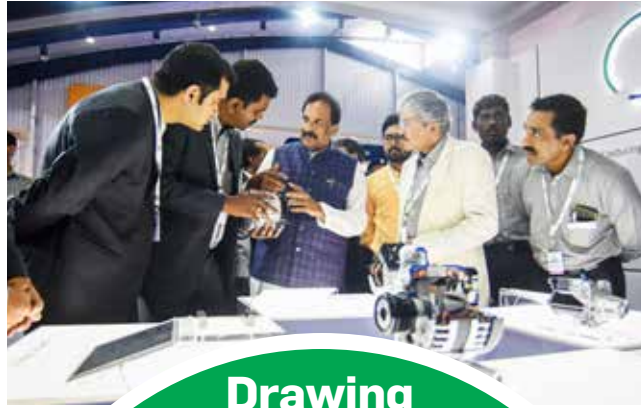




WINDOW TO A MOBILITY FUTURE

*... into mobility solutions with potential to
... the technology aspect as well as the fuel choice*





Drawing stakeholders from India and abroad, FMS 2019 has emerged as a convergence point for the industry, government, academia and startups to create a new mobility ecosystem that is smart, shared and connected



Reshaping Mobility

A good number of start-ups have pinned their hopes on FMS 2019 to help reshape the mobility of the future through networking and collaborations



For the next two days, the exhibition area in Hall No. 2 at FMS 2019 will be home to a number of startups, who are ready to disrupt the mobility space with their great ideas and technologies.

Reaching a step closer to the future of shared mobility, Quick Ride offers a powerful platform to find real-time options for ride-sharing, carpooling and bike pooling.

With over 1.2 million plus users, it has prevented emission of more than 26,000 tonnes of carbon-di-oxide. "Ride-sharing reduces the number of vehicles on the road. Our aim is to remove at least 1 million vehicles from the roads of India in the next two years," says KNM Rao, Founder & CEO of Quick Ride.



Another startup, Dolphin Recreation, has taken the eco-friendly mobility to water. It manufactures eco-friendly Solar and Electric Boats. Operating since 2009, the company not only manufactures but also modifies the fuel-based motor boats and shikaras with their eco solutions. Coimbatore-based start-up eMotion Motors offers the country's first geared electric motorcycle called Surge. Surge runs up to 100 km on a single charge, with rapid charging of the battery in just half an hour.

The startup wants to combine the passion for high-performance vehicles with a forward-thinking desire for clean and efficient energy sources.



A WALK THROUGH FMS EXPO

Mobility stakeholders ranging from leading automakers to startups and technology providers, all have assembled under a roof to showcase their innovations in the field of mobility at the Future Mobility 2019 expo



IIT Madras, DeccaLeap, Quickride, IIT Kharagpur, Lucas TVS, Teri, Tata Motors, Greenfuel Energy Solutions are among the 56 exhibitors who have come together under one roof to help create a sustainable future for mobility in India. The show underscores the latest trends in connectivity and new mobility solutions.

Maruti Suzuki, Toyota, BMW, Bajaj are showcasing their eco-friendly cars, including CNG and electric-powered Camry, Prius PHV, BMWi3, Bajaj Qute, among others. While some of these future mobility products have already been launched, some remain at the concept stage.

In the EV segment, an E-bus by BHEL has been put on display which has successfully completed 15 years on the road. Another e-bus by Ashok Leyland, which is the first by an Indian company, is also making its mark at the expo. Electronic 3-wheelers, E-loaders, E-scooters are some others EVs from Mahindra, Bajaj and Ather, which are drawing visitors.

Along with many big names, some startups have also put on display their innovations. The products range from electronic boats to elec-



tronic motorcycles. Besides products in the EV space, startups have also come up with solution for ridepooling, fire extinguishers, among others. Imperial Society of Innovative Engineers has put on display Go-Kart innovative designs prepared by students. Deccanleap, another startup, is providing independent solutions for vehicle fire which can be easily installed. It is an



innovative alternative for fire extinguishers which has been designed in such way that it can fit into a palm. B2B meetings were seen happening in large numbers at the expo.

The FMS 2019 is aimed at creating a common platform for all stakeholders to work towards the target of developing clean and sustainable mobility solutions for India in line with Government of India's initiatives and policy push.





Localising Technology Through 'Make in India'



UK-INDIA PARTNERS IN CHANGE

The session dedicated to UK-India partnership in E-mobility highlighted innovative strategies and the scope of both the countries working together on policies, research, technology partnership and knowledge exchange

As India drives towards clean energy options, the country has been looking forward towards developing nations such as the UK in terms of "shared, connected and electric" mobility system and exploring new ways to increase the share of low carbon vehicles in its transportation fleet.

The session named the UK-India partnership in Driving Electric Mobility through Innovative Strategies, highlight the scope of both the countries working together on policies, research, technology partnership and knowl-

edge exchange in a wide spectrum of areas.

The session aimed at exploring opportunities to collaborate with Indian state governments, think tanks, businesses and research institutions to develop long term partnerships between India and the UK in the electric mobility space.

The panelist's deliberated upon innovative implementation aspects around EV Charging infrastructure, grid management, battery manufacturing and RE integration as well as strategic transition towards electric mobility.

The Future of Mobility show, organised by the Confederation of Indian Industry (CII), focused on the manufacturing industry of the country with a special session focussed on Make in India.

As the government of India is actively pursuing "Make in India" programme to promote manufacturing of goods and services indigenously, the session deliberated upon automotive sector and clean energy in this front. The automotive sector, which contributes 49 percent of manufacturing GDP, was highlighted upon by various panelist's and the challenges facing it.

The panelists discussed what

steps or initiatives need to be taken by the government and stakeholders so that India can emerge as a world class automobile manufacturing hub. The session also deliberated on how both the government and the industry can work together to enhance the regulatory environment, develop skill of labor workforce, fast track infrastructure development, incubate Research and Development and innovation and enhance supply chain competitiveness to create an enabling ecosystem so that India can emerge as a world class automobile and automotive value chain manufacturing hub.



We're on the cusp of many kinds of opportunities as well as challenges in terms of renewable energy.

Nishant Arya, ACMA and Executive Director JBM Group

The auto industry has been pretty successful with good government and manufacturing support.

Guruprasad Mudlapur, MD, Robert Bosch Automotive Electronics Pvt. Ltd

In few years down the line, it will be nice to see 25-30 million two wheelers being electric. The journey for successful two wheelers in India is going to be led by hybrid parts.

Dr. J Dinagar, Vice President, TVS Motors Company

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